

**GUIDED SELF-ASSEMBLY OF BLOCK COPOLYMER FILMS ON
INTERFEROMETRICALLY NANOPATTERNED SUBSTRATES**

ABSTRACT

Copolymer structures are formed by exposing a substrate
5 with an imaging layer thereon to two or more beams of selected
wavelengths to form interference patterns at the imaging layer to change
the wettability of the imaging layer in accordance with the interference
patterns. A layer of a selected block copolymer is deposited onto the
exposed imaging layer and annealed to separate the components of the
10 copolymer in accordance with the pattern of wettability and to replicate
the pattern of the imaging layer in the copolymer layer. Stripes or
isolated regions of the separated components may be formed with
periodic dimensions in the range of 100 nm or less.